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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Dieter Bicker

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EXAMINER

HSIAO, JAMES K

ART UNIT

PAPER NUMBER

3683

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

04/20/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/522,755	Applicant(s) BIEKER ET AL.	
	Examiner James K. Hsiao	Art Unit 3683	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION:

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 1/28/05.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 23-45 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 23-33 and 40-45 is/are rejected.
- 7) ☒ Claim(s) 34-39 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 January 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>1/28/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The information disclosure statement (IDS) submitted on 01/28/2005.

Accordingly, the IDS has been considered by the examiner.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a) because they fail to show the plate springs as described in the specification. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims **32, and 43- 45** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim **32**, it is unclear what direction is meant by "in a direction of the connection plate."

Regarding claims **44 and 45**, it is unclear as to what is meant by "undercutting a rod in a recess of the lining support plate" and of 45, "undercut"

Claims **43-45** recite the limitation "pressure pieces and lining support plates" in line two. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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6. Claims **23-25, 27-29, 31, 33, 40, 41, 44 and 45**, are rejected under 35 U.S.C. 103(a) as being unpatentable over Ortegren et al. (US-6668981) in view of Severinson (US-5833035).

Regarding claim **23**, Ortegren et al. discloses a caliper (**abstract, line 2**) which, in use, straddles the brake disc (**abstract, lines 2-3**); a brake application unit arranged in the caliper for applying a braking force; at least one adjustment device (**fig 6, 23**) arranged in the caliper for offsetting at least one of brake lining and brake disc wear, said at least one adjustment device comprising two axially displaceable adjustment elements (**fig 6, 39**), each of which has a respective pressure piece (**fig 6, end of 39**); a common connector plate (**fig 6, 38**) in which end areas of the two adjustment elements which face a respective brake lining are fixed in a torsion resistant manner (**col. 4, lines 65-67**);

Ortegren et al. lacks a heat insulation layer. Severinson teaches wherein a single or multi-part heat insulation layer is attached (**fig 2, 7**), at least in sections, at least one of the connector plate and the pressure piece on a side facing the respective brake lining.

Regarding claim **25**, Severinson teaches wherein the heat-insulating layer is formed in one or more parts (**fig 2, 7**).

Regarding claim **43**, Ortegren et al. discloses as set forth above but lacks to show the pressure piece plates and lining support plate connected. Severinson teaches wherein the pressure pieces (**fig 2, 81**) and lining support (**fig 2, 6**) plates of the brake

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linings are coupled to one another (**fig 2, through 7**) such that a retraction occurs when the adjustment elements are retracted, and when the brake is released.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to attach a heat insulating plate of Severinson directly to the connector plate of Ortegren et al. in order to protect elements of the brake against excessive heat.

Regarding claim **24**, Ortegren et al. discloses a connector plate dimensioned such that it largely covers an opening (**fig 6, 38**), which faces the brake disc, of an installation space in the caliper in which the adjustment device is arranged (**fig 6**).

With the modification of Ortegren et al. through Severinson the connector plate serves as a thermal shield.

Regarding claims **27 and 28**, Ortegren et al. discloses an electric motor drive operably coupled to at least one of the adjustment devices (**col. 2, lines 20-23**).

Regarding claim **29**, Ortegren et al. discloses a pressure piece plate (**fig 6, near ref # 39**), which forms the pressure piece and is positioned on the connector plate (**fig 6, 38**), the pressure piece plate bearing the heat insulation layer.

Regarding claim **31**, Ortegren et al. discloses wherein the pressure plate is arranged flush with a surface of the connector plate (**fig 6**) and held in an axial torsion-resistant manner (**col. 4, lines 65-67**).

Regarding claim **33**, Ortegren et al. discloses where the connector plate is provided with protuberances (**fig 6**) in a connection area with the adjustment elements

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facing the brake lining, said adjustment elements (**col. 4, lines 65-67**) being fixed axially and torsion-resistibly in said connection area.

Regarding claim **40**, Ortegren et al. discloses an expansion bellows (**fig 6, 15**) coupled to the connector plate and covering the adjustment element at least partially.

Regarding claim **41**, Ortegren et al. discloses wherein the expansion bellows is attached, at an end facing the connector plate, to an inner collar at the pressure element, and to an outer collar at the connector plate (**fig 6, 15**).

Regarding claims **44 and 45 (as best understood)**, Ortegren et al. discloses one or more plate springs arranged at one of the pressure pieces or a component of the adjustment element (**fig 6, 11**) and undercut a component of the adjustment element coupled to the pressure piece (**fig 6**).

7. Claim **26** is rejected under 35 U.S.C. 103(a) as being unpatentable over Ortegren et al. (US-6668981) in view of Severinson (US-5833035) and in further view of Baumgartner et al. (WO-02/14711)

A translation of Baumgartner et al. (WO-02/14711) is (US-7086504).

Regarding claim **26**, Ortegren et al. discloses as set forth above in section 6 but lacks an adjustment device on both sides of the brake disk. Baumgartner et al. teaches wherein an adjustment device is arranged in the caliper on each side of the brake disk (**fig 1**).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the device of Ortegren et al. with the device of Baumgartner et al. because when wear occurs it is necessary to adjust the pad clearance on both sides of the disk so there is even wear.

8. Claim **30** is rejected under 35 U.S.C. 103(a) as being unpatentable over Ortegren et al. (US-6668981) in view of Severinson (US-5833035) and in further view of Ritsema (US-4583623).

Regarding claim **30**, Ortegren et al. discloses as set forth above in section 6 but lacks a heat insulation layer made from a ceramic material. Ritsema teaches a heat insulation layer that is formed of a ceramic material (**col. 3, lines 18-23**).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the heat shield layer of Ortegren as modified by Severinson with the heat shield material of Ritsema in order to prevent burnout and brake fatigue.

9. Claim **42** is rejected under 35 U.S.C. 103(a) as being unpatentable over Ortegren et al. (US-6668981) in view of Severinson (US-5833035) and in further view of Giering et al. (US-5520267).

Regarding claim **42**, Ortegren et al. discloses as set forth above in section 6 but lacks a wave fold on the connector plate. Giering et al. teaches a connector plate that has a wave fold (**fig 10, 133 near ref # 62**) in a center area extending transverse to a longitudinal extent of the connector plate.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the connector plate of Ortegren et al. with the wave fold of Giering et al. because it will provide flexibility in the connector plate.

Allowable Subject Matter

Claims **32 and 34-39** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James K. Hsiao whose telephone number is 571-272-6259. The examiner can normally be reached on Monday through Friday 8:30 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Devon Kramer can be reached on 571-272-7118. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JKH

DEVON C. KRAMER
PATENT EXAMINER

Devon Kramer
4/13/07